

CLAIMS

1. A columnar honeycomb structural body comprising a large number of through holes placed in parallel with one another in a length direction with a wall portion interposed therebetween,
5 wherein:
each of said through holes has one of ends sealed;
one end face of the through hole differs in opening area from the other end face thereof;
- 10 a ceramic material which constitutes said wall portion has an average pore diameter in a range from 5 to 30 μm ; and
the rate of capacity of micro pores each having a pore diameter two or more times larger than said average pore diameter is set to 30% or less of the capacity of the entire micro pores.
- 15 2. The honeycomb structural body according to claim 1,
wherein
the opening area on a gas inlet side is made larger than the opening area on a gas outlet side.
- 20 3. The honeycomb structural body according to claim 1 or 2,
comprising a partition wall for separating through holes on the gas inlet side from one another.
- 25 4. The honeycomb structural body according to any one of claims 1 to 3,
wherein
the ceramic material which constitutes said partition wall has a porosity in a range from 30 to 70%.
- 30 5. The honeycomb structural body according to any one of claims 1 to 4,
wherein
the through hole on a cross-section perpendicular to the length direction has a density in a range from 15.5 to 62.0 pcs/cm².

6. The honeycomb structural body according to any one of claims 1 to 5,

wherein

5 a main material is silicon carbide.

7. The honeycomb structural body according to any one of claims 1 to 6,

wherein

10 said wall portion has a thickness in a range from 0.1 to 0.5 mm.

8. The honeycomb structural body according to any one of claims 1 to 7,

15 which is applied to an exhaust gas purifying device for a vehicle.